



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/606,948

06/25/2003

Chris R. Zettinger

2376.2007-001

4417

21005

7590

10/16/2009

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

530 VIRGINIA ROAD

P.O. BOX 9133

CONCORD, MA 01742-9133

EXAMINER

MOORE, IAN N

ART UNIT

PAPER NUMBER

2463

MAIL DATE

DELIVERY MODE

10/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/2/09 have been fully considered but they are not persuasive.

Regarding claims 1-23, the applicant argued that, “...coupling via Simon’s forwarding cards 546 *does not correspond* to the coupling via the switch interface modules recited in claim 1 because *removing Simon’s forwarding cards 546 would not change the number of connections between Simon’s cross-connect card 562 and switching fabric card 570...Simons does not disclose the coupling via the respective switch interface modules allowing a reduced number of links between the first switch fabrics and the second switch fabrics relative to coupling the first switch fabrics directly to the second switch fabric...neither Simons nor Ishiwatari supplies the missing coupling, their combination necessarily fails to include the missing coupling...MPEP 2106 states....the "coupling...allowing a reduced number of links" to be a functional element, not a conclusive statement based on intended use...Ishiwatari/combination of Simon and Ishiwatari also fails to disclose “performing facility protection...modules..” in page 6-9.*

In response to applicant’s argument, the examiner respectfully disagrees with the agreement.

In response to applicant’s arguments, nowhere in the final action recites “removing”, and thus the erroneous arguments relates to “removing” are irrelevant. In particular, Simon discloses the coupling via the respective switch interface modules (see FIG. 35A-B, by connecting using forwarding cards 546, 548, 550, 552) allowing a reduced number of links

Art Unit: 2463

between the first switch fabrics and the second switch fabric (see FIG. 35A-B, enables the lesser/reduce number of connections/links between cross connect cards 562, 564, 566, 568 and switching fabric cards 570 (i.e. in quadrant 1, four (4) active lines (plus one redundant) between cross connect cards 562 and the switching fabric card 570, which is less/reduced number of links when connection via forwarding card 546); see col. 45, line 35-69; see col. 49, line 10-60) relative to coupling the first switch fabrics directly to the second switch fabric (see FIG. 35A-B, relative to connecting cross connect cards directly to switching fabric card 570 (i.e. in quadrant 1, if cross connect card 562 were connected directly to the switching fabric card 570, it would require eight (8) lines from (8) universal port cards 554a-h; however, since the connections are via forwarding card 546, it now only requires four (4) active lines (plus one redundant). Thus, it is clear that the uses of forwarding cards 546 enable/allow a less/reduced number of links; see col. 45, line 35-69; see col. 49, line 10-60).

In view of the above, it is clear that Simons discloses the broadly claimed invention “coupling via Simon’s forwarding cards 546 *does not correspond* to the coupling via the switch interface modules recited in claim 1”.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based on the combined system of Simons and Ishiwatari as set forth detailed below.

Simons discloses a second switch fabric (see FIG. 35A-B, switching Fabric Card 570) coupled to the first switch fabrics (see FIG. 35A-B, connecting with cross connect cards 562,

Art Unit: 2463

564, 566, 568) via respective switch interface modules (see FIG. 35A-B, via corresponding/respective forwarding cards 546, 548, 550, 552) to switch a subset of the signals (see FIG. 35A-B, switching separated/divided/detached packets/cells/frames received from quadrants 1-4) in a non-facility protection switching manner among the first switch fabrics (see col. 45, line 40 to col. 46, line 30; see col. 47, line 53 to col. 48, line 11; see col. 50, line 60-67; switching fabric card does not perform lines/facility redundancy/protection switching schemes with/between the quadrants), the coupling via the respective switch interface modules (see FIG. 35A-B, by connecting using forwarding cards 546, 548, 550, 552) allowing a reduced number of links between the first switch fabrics and the second switch fabric (see FIG. 35A-B, enables the lesser/reduce number of connections/links between cross connect cards 562, 564, 566, 568 and switching fabric cards 570 (i.e. in quadrant 1, four (4) active lines (plus one redundant) between cross connect cards 562 and the switching fabric card 570, which is less/reduced number of links when connection via forwarding card 546); see col. 45, line 35-69; see col. 49, line 10-60) relative to coupling the first switch fabrics directly to the second switch fabric (see FIG. 35A-B, relative to connecting cross connect cards directly to switching fabric card 570 (i.e. in quadrant 1, if cross connect card 562 were connected directly to the switching fabric card 570, it would require eight (8) lines from (8) universal port cards 554a-h; however, since the connections are via forwarding card 546, it now only requires four (4) active lines (plus one redundant). Thus, it is clear that the uses of forwarding cards 546 enable/allow a less/reduced number of links; see col. 45, line 35-69; see col. 49, line 10-60).

Ishiwatari teaches multiple first switch fabrics (see FIG. 9A-B, 10, transmission devices 10 A-D; see FIG. 10, 20; see col. 6, line 40-56) to perform facility protection switching at a

Art Unit: 2463

substrate of the signals (see FIG. 10, performing STS-1 facility protection switching between working signal processing part 23, UT(1-W)-(4-W), and protection signal processing part 33 UT (1-P)-(4-P) at individual STS-1 channel substrate (e.g. each STS-1 channel # 1 to 24); note that each Demux 22 signal rate (e.g. STS-1 rate with **line rate 51.84 Mbps**)) is less than multiplexed signal OC-N) relative to a rate at which the signals are received by the multiple first switch fabrics (see FIG. 10, relative to multiplexed Optical OC-N signal rate (e.g. OC-48 (2488 Mbps), OC-192 (9953 Mbps)) at which OC-N signal are received by multiple transmission devices; see col. 7, line 13-65; see col. 8, line 1-69).

Thus, the combined system of Simons and Ishiwatari discloses the broadly claimed invention.

In response to applicant's argument on “allowing a reduce number of links function element...not a conclusive statement based on intended use...”, the broadly claimed invention recites “*the coupling via the respective switch interface modules allowing a reduced number of links between the first switch fabrics and the second switch fabrics relative to coupling the first switch fabrics directly to the second switch fabric*”.

(1) Applicant interpretation on MPEP 2106 is an error. MPEP 2106 is referring to the a hybrid claim where an apparatus including one more steps of functional limitation. “*Allowing a **reduce number of links***” is conclusive statement based on intended used of the claim, and it is not a functional limitation. As long as the respective interface modules are coupled between first and second fabric, it would result in less/reduced number of links in between. In other word, if there only two device there is a conventional one-to-one types of links; however, if there is an intermediate device inserting between two devices, clearly one-to-one types of links can be

Art Unit: 2463

reduced since the intermediate device enables/allows to connect with less links than before.

Thus, it is clear that this specific recitation is nothing more than conclusive statement associated with intended use of the claimed invention. Even applicant specification (in US 20040085895

A1) supports these facts as follows:

[0039] Switch interface modules (discussed later in reference to FIG. 10) may also be employed in the distributed switch fabric 317 between the protection switch fabric 325 and the central switch fabric 320. The switch interface modules allow for configuration **connections** between the distributed switch fabrics 325 and the central switch fabric 320, **which can reduce the central switch fabric 320 complexity**.

[0048] Also shown in FIG. 4 is a local switch path 420 in which the protection switch fabric 325-M is used to perform local switching. The local switching occurs through the working port 410a-1 in the associated protection group 405-M, passes through the associated protection switch fabric 325-M, and continues through another working port 410a-n. The protection switch fabric 325-M performs local switching, which off-loads switching requirements from the central switch fabric 320. This off-loading may result in a reduction of the size and complexity of the central switch fabric 320.

In view of the above, it is clear that the usage of “may result in reduction” and “can reduce” in the specification clearly shows that the “reduction number of links” intended use or conclusive statement. Since one can clearly see that , if there is an intermediate device inserting between two devices, clearly one-to-one types of links can be reduced since the intermediate device enables/allows to connect with less links than before.

(2) Even if “*Allowing a **reduce number of links***” were considered as “functional limitation”, the combined system of Simons and Ishiwatari still discloses these limitation as set forth above. These broad limitations do not define a patentable distinct invention over that in the combined system of Simons and Ishiwatari since both the invention as a whole and the combined system of Simons and Ishiwatari are directed to “inserting the intermediate device to enable/allow less number of links/connections”. Thus “*Allowing a **reduce number of links***” is clearly routine experimentation and optimization in the absence of criticality since connection it

Art Unit: 2463

is based on commonly accepted well established teaching in art (*since one can clearly see that, if there is an intermediate device inserting between two devices, clearly one-to-one types of links can be reduced since the intermediate device enables/allows to connect with less links than before*).

Thus, In this case, Simons clearly discloses such limitations as set forth above and detailed below.

In response to applicant's argument regarding claims 12-18, 20 and 22 and 8, 10, 19 and 21, **the examiner respectfully disagrees** with the agreement since the combination of references clearly discloses the broadly claimed invention in final action page 5-15.

/Ian N. Moore/

Primary Examiner, Art Unit 2463